WHAT IS CLAIMED IS:

1. An apparatus for crystal growth, comprising:

a growth chamber for containing a solution comprising a substance to be crystallized and a solvent for the substance to be crystallized, whereby evaporation of the solvent from the solution causes crystallization of the substance to be crystallized; and

a gas flow source in communication with the growth chamber, for providing a gas flow to remove evaporated solvent vapor from the growth chamber.

2. An apparatus according to claim 1, further comprising a gas flow source control for changing the gas flow rate to the growth chamber.

3. An apparatus according to claim 2, further comprising an aggregation or nucleation detector for determining the onset of aggregation or nucleation in the solution and creating a signal for the gas flow source control to change the gas flow rate in response to the onset of aggregation or nucleation.

4. An apparatus according to claim 1, wherein the reaction chamber comprises first and second sections, wherein the solution is located in the first section and the gas flow is provided to the second section.

5. An apparatus according to claim 4, further comprising a barrier between the first and second sections for preventing any substantial impingement of the gas flow on the solution in the first section.

6. An apparatus according to claim 5, wherein the barrier is a plate with a central opening.

7. An apparatus according to claim 5, wherein the barrier is a membrane that is permeable to the solvent vapor.

8. An apparatus according to claim 1, wherein the gas is nitrogen.

9. An apparatus according to claim 1, further comprising a detector for solvent vapor removed from the growth chamber.

10. An apparatus according to claim 1, wherein the solvent is water and the apparatus comprises a sensor for measuring humidity of gas removed from the growth chamber.

11. An apparatus according to claim 1, wherein the substance to be crystallized is selected from the group consisting of a protein, a polypeptide, a nucleic acid, a virus and a virus fragment.

12. method of growing crystals, comprising:

dissolving a substance to be crystallized in a solvent to form a solution;

disposing the solution in a growth chamber whereby solvent can evaporate from the solution; and

supplying a gas flow to the growth chamber to remove evaporated solvent from the gorwth chamber.

13. The method of claim 12, further comprising analyzing the solution to detect an onset of nucleation and changing the gas flow rate upon detection of the onset of nucleation.

14. The method of claim 12, wherein the growth chamber comprises first and second sections, with the solution being disposed in the first section and the gas flow being provided to the second section.

15. The method of claim 14, wherein direct impingement of the gas flow on the solution is substantially prevented.

16. The method of claim 12, wherein the substance to be crystallized is selected from the group consisting of a protein, a polypeptide, a nucleic acid, a virus and a virus fragment.

17. The method of claim 16, wherein the substance to be crystallized is a protein.

18. The method of claim 16, wherein the substance to be crystallized is a polypeptide.

19. The method of claim 16, wherein the substance to be crystallized is a nucleic acid.

20. The method of claim 16, wherein the substance to be crystallized is a virus.

21. The method of claim 16, wherein the substance to be crystallized is a virus fragment.

22 An apparatus for crystal growth, comprising:

a growth chamber comprising a container for containing a solution comprising a substance to be crystallized and a solvent for the substance to be crystallized, whereby a change in the temperature of the solution causes crystallization of the substance to be crystallized; and

a control for changing the temperature of the solution.

23. An apparatus according to claim 22, further comprising a nucleation detector for determining the onset of nucleation in the solution and creating a signal for the control to change the rate of temperature change in response to the onset of nucleation.

24. An apparatus according to claim 23, wherein the control decreases the temperature of the solution prior to nucleation and increases the temperature of the solution after nucleation.

25. An apparatus according to claim 23, wherein the control increases the temperature of the solution prior to nucleation and decreases the temperature of the solution after nucleation.

26. An apparatus according to claim 22, wherein the container is capable of holding a solution volume of at least 50 microliters.

27. A method of growing crystals, comprising:
dissolving a substance to be crystallized in a solvent to form a solution;
disposing the solution in a container in a growth chamber; and
changing the temperature of the solution to cause crystallization of the substance to be crystallized.

28. The method of claim 27, further comprising analyzing the solution to detect an onset of nucleation and changing the rate of temperature change upon detection of the onset of nucleation.

29. The method of claim 28, wherein the temperature is decreased prior to nucleation and increased after nucleation.

30. The method of claim 28, wherein the temperature is increased prior to nucleation and decreased after nucleation.

31. The method of claim 27, wherein the substance to be crystallized is selected from the group consisting of a protein, a polypeptide and a virus fragment.

32. The method of claim 31, wherein the substance to be crystallized is a protein.

33. he method of claim 31, wherein the substance to be crystallized is a polypeptide.

34. The method of claim 31, wherein the substance to be crystallized is a nucleic acid.

35. The method of claim 31, wherein the substance to be crystallized is a virus.

36. The method of claim 31, wherein the substance to be crystallized is a virus fragment.

37. The method of claim 29, wherein the temperature is held at a constant level after the period of increase.

38. The method of claim 30, wherein the temperature is held at a constant level after the period of decrease.